DRAFT

REQUEST FOR REDESIGNATION FOR OZONE ATTAINMENT IN THE MANITOWOC COUNTY SUBPART-1 NONATTAINMENT AREA AND MAINTENANCE PLAN FOR MANITOWOC COUNTY

MANITOWOC COUNTY, WISCONSIN

Developed By:
The Wisconsin Department of Natural Resources

February 2005

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I. INTRODUCTION

This document is intended to support Wisconsin's request that Manitowoc County be redesignated from nonattainment to attainment of the eight-hour ozone standard. Manitowoc County is the entire area of the Manitowoc County Subpart-1 ozone nonattainment area. The ozone monitoring station in Manitowoc County recorded three years, from 2002-2004, of complete, quality-assured ambient air quality monitoring data demonstrating attainment with the eight-hour ozone standard.

Section 107 of the Clean Air Act establishes specific requirements to be met in order for an area to be considered for redesignation of a National Ambient Air Quality Standard (NAAQS) including:

(a) A determination that the area has attained the eight-hour ozone standard;
(b) An approved State Implementation Plan (SIP) for the area under Section 110(k);
(c) A determination that the improvement in air quality is due to permanent and enforceable reductions in emissions resulting from implementation of the SIP and other federal requirements;
(d) A fully approved maintenance plan under Section 175(A);
(e) A determination that all Section 110 and Part D requirements have been met.

This document addresses each of those requirements. It also provides additional information to support continued compliance with the eight-hour ozone standard.

A. Background

The Clean Air Act Amendment of 1990 (CAAA) required areas failing to meet the NAAQS for ozone to develop SIPs to expeditiously attain and maintain the standard. Historically, exceedances of the ozone standard have been monitored in Manitowoc County located in eastern Wisconsin along the western lakeshore of Lake Michigan (hereafter known as the Manitowoc County nonattainment area).

The Manitowoc County nonattainment area was classified as moderate nonattainment for the 1-hour ozone NAAQS pursuant to the 1990 Amendments. The nonattainment designation was based on monitored violations of the NAAQS for ozone. As a result of this classification, the State of Wisconsin was subject to new requirements, including development of a plan to reduce volatile organic compound (VOC) emissions and a plan demonstrating that the area would meet the federal primary one-hour standard for ground-level ozone by November 15, 1996.

By the 2001-2003 time period, Manitowoc County was monitoring attainment of the 1-hour NAAQS. EPA published a final rule in the Federal Register on April 17, 2003, redesignating Manitowoc County as attainment for the 1-hour ozone standard.

On April 30, 2004, EPA published a final rule in the Federal Register setting forth designations and classifications for the 8-hour ozone standard. These designations became effective on June 15, 2004. At this time, Manitowoc County was designated as a Subpart 1 nonattainment area for the 8-hour ozone standard. Based on 2002-2004 data, Manitowoc County is now monitoring attainment of the 8-hour ozone standard.

The attainment level air quality for Manitowoc comes as a result of twenty years of control effort across the Lake Michigan Region from all sectors to limit and reduce the emissions of VOCs and nitrogen oxides (NOx), precursor pollutants of ambient ozone.

Since 1990, in compliance with the CAAA, Wisconsin developed and implemented several new programs and new or amended rules designed to control emissions of VOCs and NOx. The status of these rules with respect to their approval by the US Environmental Protection Agency (US EPA) as SIPs is detailed in Section IV.

B. Geographical Description

Manitowoc County is located in eastern Wisconsin along the western shoreline of Lake Michigan. With a population of 82,893 in 2000 and a largely agriculturally based economy, Manitowoc County's population is approximately 40% rural. The Wisconsin Department of Administration's Demographic Services Center estimates that Manitowoc County's population increased by 1.7% to 84,264 between the years 2000 and 2004. The City of Manitowoc, with an estimated 2004 population of 34,612, is Manitowoc County's largest city. The following Wisconsin counties in nonattainment of the ozone standard that are upwind of Manitowoc County, and significantly effect the air quality in Manitowoc County, are: Kenosha, Milwaukee, Ozaukee, Racine, Sheboygan, Washington and Waukesha.

C. Status of Air Quality

Ozone monitoring data for the most recent three (3) years, 2002 through 2004, demonstrates that air quality has met the NAAQS for ozone in all respects in the Manitowoc County nonattainment area. This fact, accompanied by the decrease in estimated emission levels discussed in Section VI, justifies a redesignation to attainment for the subject area based on Section 107(d)(3)(D) of CAAA.

II. REQUIREMENTS FOR REDESIGNATION

Section 110 and Part D of the CAAA list a number of requirements that must be met by basic nonattainment areas prior to consideration for redesignation to attainment. In addition, US EPA has published detailed guidance in a document entitled "Procedures for Processing Requests to Redesignate Areas to Attainment," issued September 4, 1992, to EPA Regional Air Directors. This document is hereafter referred to as "Redesignation Guidance." The Redesignation Guidance is for redesignation requests for those areas designated nonattainment under the 1-hour ozone standard. Wisconsin received written confirmation from US EPA Region V to use this guidance for redesignation requests for

the 8-hour ozone nonattainment areas. See Email from D. Aburano, US EPA Region V, dated November 24, 2004 in Appendix 1. This Request for Redesignation and Maintenance Plan is based on this Redesignation Guidance, supplemented with additional guidance received from staff of the Regulation Development Section of US EPA Region V. This guidance is available in Appendix 1.

The Sections below refer in greater detail to the requirements listed in Section I of this document. The pertinent sections of the Clean Air Act are referenced where appropriate.

III. MANITOWOC COUNTY'S ATTAINMENT OF THE 8-HOUR OZONE NAAQS

The 8-hour primary and secondary ozone ambient air quality standards are met at an ambient air quality monitoring site when the 3-year average of the annual fourth-highest daily maximum 8-hour average ozone concentration is less than or equal to 0.08 ppm.

The requirements for ozone monitoring are set out in 42 U.S.C. sec. 107(d)(3)(E)(i) and include:

1) A demonstration that the NAAQS for 8-hour ozone standard, as published in 40 CFR 50.10, have been attained. Ozone monitoring data must show that violations of the ambient standard are no longer occurring.

2) Ambient monitoring data quality assured in accordance with 40 CFR 58.10, recorded in the Air Quality System (AQS) data base, previously known as the Aerometric Information and Retrieval System (AIRS) data base, and available for public view.

3) A commitment that, once redesignated, the State will continue to operate an appropriate monitoring network to verify the maintenance of the attainment status.

A. Ozone Monitoring Network

One (1) monitor (AQS # 55-071-0007), operated by the Wisconsin Department of Natural Resources Air Management Bureau (WDNR), has measured ozone concentrations in the Manitowoc County nonattainment area at the current location since April 1994. (Ozone monitoring has been performed in Manitowoc County since April 15, 1984.) Located on the 1,200 acre Woodland Dunes Nature Center between Two Rivers and Manitowoc, Wisconsin, the current ozone monitor has yielded 17 years of valid, quality assured ozone data. This site is being used for the redesignation request. A listing of the highest readings from 2002 through 2004 is shown in Appendix 2 on the AQS Quick Look Report.

The location of the monitoring site for the Manitowoc nonattainment area is shown on Figure 1.

FIGURE 1 – Manitowoc Ozone Monitoring Site at Woodland Dunes Nature Center 55-071-0007

B. Ambient Ozone Monitoring Data

The 8-hour ozone NAAQS is 0.08 parts per million (ppm) averaged over eight hours. The ozone NAAQS is attained when the 3-year average of the fourth (4^{th}) highest 8-hour daily maximum value is less than 0.085 ppm. Table 1 contains the top 15 peak-daily eight hour ozone days and concentrations measured at Woodland Dunes in Manitowoc County for the period 2002 through 2004. Based on these data, a design value of 0.083 ppm was calculated for Manitowoc County, demonstrating that the NAAQS for ozone has been attained.

TABLE 1
Top 15 Peak-Daily Eight Hour Ozone Days and Concentrations
Manitowoc Ozone Monitoring Site (55-071-0007)
2002 through 2004

Rank (high to low)	Yr	Mo	Day	Peak Daily 8-hr O3 (ppm)	Rank (high to low)	Yr	Mo	Day	Peak Daily 8-hr O3 (ppm)	Rank (high to low)	Yr	Mo	Day	Peak Daily 8-hr O3 (ppm)
1	02	6	24	0.094	1	03	6	24	0.113	1	04	6	6	0.083
2	02	6	30	0.089	2	03	6	25	0.098	2	04	6	7	0.079
3	02	6	23	0.084	3	03	6	23	0.098	3	04	8	8	0.076
4	02	8	10	0.083	4	03	7	2	0.092	4	04	7	28	0.074
5	02	6	19	0.082	5	03	8	20	0.092	5	04	6	8	0.072
6	02	9	8	0.079	6	03	7	1	0.087	6	04	9	12	0.071
7	02	6	9	0.076	7	03	6	22	0.077	7	04	9	11	0.070
8	02	7	7	0.069	8	03	6	17	0.076	8	04	8	1	0.067
9	02	6	8	0.068	9	03	7	3	0.075	9	04	9	5	0.067
10	02	7	31	0.068	10	03	9	17	0.075	10	04	6	16	0.065
11	02	9	7	0.068	11	03	9	11	0.073	11	04	6	5	0.064
12	02	9	1	0.067	12	03	7	14	0.073	12	04	7	20	0.063
13	02	5	28	0.066	13	03	9	18	0.072	13	04	4	29	0.062
14	02	6	25	0.066	14	03	8	1	0.069	14	04	5	12	0.062
15	02	7	16	0.066	15	03	7	5	0.069	15	04	9	2	0.061

Appendix 2 provides several ozone monitoring data summaries including the Quick Look Summary Report, Violation Day Count Report, Data Completeness Report for 2002-2004 and the Top 50 Peak-Daily 8-hour Ozone Days and Concentrations Measured at the Manitowoc Ozone Monitoring Site (55-071-0007) from 2002 through 2004.

The Quick Look Summary Report shows:

- The four highest peak daily 8-hour readings for the Manitowoc ozone monitoring site for the years 2002 through 2004.

- The number of valid readings from each site, found in the column "VALID DAYS MEAS."
- A single exceedance for the one-hour ozone standard occurred in 1999 and there have been no exceedances of the standard since then.

C. Quality Assurance

WDNR follows the fully approved Wisconsin Ozone Quality Assurance Plan, in accordance with 40 CFR 58.10, to assure the quality of the monitoring data it submits to the Air Quality System. All available 2002-2004 data for site 55-071-0007 has been recorded and is available in its entirety to the public.

D. Data Completeness and Expected Exceedances

The data completeness reports in Appendix 2 demonstrate that average data completeness at the Manitowoc ozone monitoring site during the three year period meets US EPA requirements. Data completeness averaged 100%, 96% and 94% in 2002, 2003 and 2004, respectively. In addition to exceedances recorded by the Manitowoc monitor, there were dates when monitoring data were unavailable. In August and September 2003, data completeness was 88% and 92%, respectively. During the period August 28 - September 3, 2003, a quality assurance report indicates that the sampling line was disconnected. The maximum daily 8-hour average ozone concentrations from the 3 closest ozone monitoring sites to Manitowoc are shown in Table 2 below.

TABLE 2
Ozone Monitoring Data 2003

Date	Collins Marsh Manitowoc County Site (55-071-0004) 8-hr Peak Daily O3 Conc. (ppm)	Kewaunee Kewaunee County (Site 55-061-0002) 8-hr Peak Daily O3 Conc. (ppm)	Sheboygan Sheboygan County Site (55-117-0006) 8-hr Peak Daily O3 Conc. (ppm)	Manitowoc Max Daily Temp (°F)
8/28/2003	0.060	0.070	0.074	74.3
8/29/2003	0.036	0.032	0.043	73.7
8/30/2003	0.035	0.036	0.035	67.4
8/31/2003	0.037	0.040	0.039	69.2
9/1/2003	0.045	0.051	0.045	70.1
9/2/2003	0.048	0.050	0.054	69.9
9/3/2003	0.042	0.040	0.043	76.9

As Table 2 indicates, ozone concentrations measured at nearest ozone monitoring sites during this 7-day period did not approach 0.085 ppm, the 8-hour ozone standard. In addition, maximum daily temperatures measured at the Manitowoc ozone monitoring site indicate that temperatures were not favorable for ozone formation during this period.

During September 21- 28, 2004, a sample line was not functioning properly and therefore, ozone data completeness was 76% for that month. Table 3 contains ozone concentrations measured at nearest ozone monitoring sites during this 8 day period.

On September 22 and 23, ozone measurements were elevated at Kewaunee, Newport and Sheboygan. Ozone concentrations in Wisconsin were very low on other days. On September 22, the peak daily 8-hour concentration reached 0.077 ppm at Newport. On September 23, the peak daily 8-hour concentration measured at Newport, 0.086 ppm, exceeded the ozone standard. While ambient temperatures measured at the Manitowoc monitoring site were moderate, approximately 70ºF on both days, maximum daily inland temperatures were in the low 80s Fahrenheit, which, hypothetically, may have contributed to elevated ozone levels in the region.

A worst-case scenario demonstrates that, even given the high monitored value at the Newport monitor while the Manitowoc monitor was inoperable, it is highly likely that Manitowoc would still be in attainment of the ozone standard. The maximum peak daily 8-hour concentrations measured in Wisconsin on 9/22/2004 and 9/23/2004 were 0.081 ppm (Beloit; 55-105-0024) and 0.086 ppm (Newport; 55-029-0004), respectively. The four highest peak daily 8-hour ozone values measured in Manitowoc in 2004 were 0.083 ppm, 0.079 ppm, 0.076 ppm and 0.074 ppm (see Appendix 2). Substituting the maximum peak daily concentration measured in Wisconsin on 9/22/2004 and 9/23/2004, the fourth highest value measured at Manitowoc would then become 0.079 ppm. When averaging the fourth highest peak daily 8-hour values measured at Manitowoc in 2002 (0.083 ppm) and 2003 (0.092 ppm), and the theoretical fourth highest peak daily 8-hour value in 2004 of 0.079 ppm, the Manitowoc design value would become 0.084 ppm and therefore, would be in attainment and eligible for redesignation.

TABLE 3
Ozone Monitoring Data 2004

Date	Kewaunee Kewaunee County (Site 55-061-0002) 8-hr Peak Daily O3 Conc. (ppm)	Newport Door County Site (55-029-0004) 8-hr Peak Daily O3 Conc. (ppm)	Sheboygan Sheboygan County Site (55-117-0006) 8-hr Peak Daily O3 Conc. (ppm)	Manitowoc Max Daily Temp (ºF)
9/21/2004	0.057	0.067	0.054	65.0
9/22/2004	0.071	0.077	0.068	70.4
9/23/2004	0.083	**0.086**	0.082	68.2
9/24/2004	0.037	0.051	0.040	73.7
9/25/2004	0.032	0.034	0.029	67.7
9/26/2004	0.036	0.040	0.040	NA
9/27/2004	0.045	0.046	0.041	66.0
9/28/2004	0.028	0.029	0.029	59.0

E. Commitment to Continued Monitoring

The WDNR commits to continue monitoring ozone levels in Manitowoc County indefinitely. WDNR will discuss changes in the siting that may become necessary with US EPA Region V staff. WDNR will continue to quality assure the monitoring data to meet the requirements of 40 CFR 58. Connection to a central station and updates to the WDNR website, (http://www.dnr.state.wi.us/org/aw/air/wisards/downloads.htm) will provide real-time availability of the data and knowledge of any exceedances to the public.

WDNR will enter all data into AIRS on a timely basis in accordance with federal guidelines.

IV. MANITOWOC COUNTY HAS MET ALL RELEVANT REQUIREMENTS UNDER SECTION 110 AND PART D OF THE ACT

As stated in the Redesignation Guidance, a State must meet all requirements of section 110 and Part D that were applicable prior to submittal of a complete redesignation request.

A. Section 110 Requirements

Section 110(a)(2) of the Act lists general elements to be included in each SIP after adoption by the State and reasonable notice and public hearing. Wisconsin has met all significant planning obligations associated with its section 110 and Part D obligations under the CAA. At this point in time, Wisconsin retains its fully approved and fully delegated air quality management program from the federal government. EPA funds a significant portion of the program and retains annual oversight for the program through a formal Partnership (EnPPA) arrangement.

With partial support from EPA, the WDNR maintains a comprehensive ambient air quality monitoring network and AQ reporting program, including adequately placed ozone monitoring sites around the state and a fully enhanced network in the vicinity of the Lake Michigan airshed. WDNR maintains a comprehensive point source permitting structure and collects emission fees through an annual point source inventory structure. These are structured in state statute to continue through and past the maintenance period.

Wisconsin's Air Quality Plan Development structure contains adequate state authorities for rule-making and includes an active enforcement/compliance oversight component. The state has developed and applied conformity assessment structures approved by EPA and FWHA for both transportation and general conformity and is structured to continue that effort through the maintenance period.

All of the general SIP elements required under Section 110(a)(2) were approved for the 1-hour ozone NAAQS. Furthermore, with respect to the 8-hour ozone NAAQS, these elements are not required to be submitted until June 15, 2007, 3 years after designation. Therefore, for purposes of redesignation, they are not considered applicable requirements.

B. Part D Requirements

Under Part D, an area's classification determines the requirements to which it is subject. Subpart 1 of Part D sets forth the basic nonattainment requirements applicable to all nonattainment areas. Subpart 2 of Part D establishes additional requirements for ozone

nonattainment areas classified under table 1 of section 181(a). On April 30, 2004 (69 FR 23858), Manitowoc County was designated as nonattainment and classified as a Subpart 1 area. The effective date of this action was June 15, 2004. Therefore, to be redesignated to attainment, the State must meet the applicable requirements of subpart 1 of Part D – specifically sections 172 and 175, but not the requirements of subpart 2 of Part D.

Section 172(c) sets forth general requirements applicable to all nonattainment areas. Under 172(b), the section 172(c) requirements are applicable as determined by the EPA Administrator, but no later than 3 years from the date of the nonattainment designation. For Manitowoc County, these requirements would come due no later than June 15, 2007. Therefore, for purposes of redesignation, they are not considered applicable requirements.

Section 176(c) of the Act requires States to establish criteria and procedures to ensure that federally supported or funded projects conform to the air quality planning goals in the applicable State SIP. The requirement to determine conformity applies to transportation plans, programs and projects developed, funded or approved under title 23 U.S.C. or the Federal Transit Act ("transportation conformity"), as well as to all other federally support or funded projects ("general conformity"). Section 176 further provides that state conformity revisions must be consistent with federal conformity regulations that the Act required the U.S. EPA to promulgate. U.S. EPA approved Wisconsin's general and transportation conformity SIPs on July 29, 1996 (61 FR 39329) and August 27, 1996 (61 FR 43970), respectively. On July 2, 2001, the U.S. EPA approved the one-hour ozone attainment demonstration SIP that was submitted by Wisconsin on December 22, 2000. U.S. EPA approved commitments by the state to complete a mid-course review of the attainment status of the one-hour ozone non-attainment area and to recalculate conformity budgets within one year of the release of MOBILE6.

On May 5, 2003 U.S. EPA notified the public that the motor vehicle emission budgets (MVEB) in the January 31, 2003 Wisconsin SIP revision are adequate for conformity purpose. The SIP revisions included MOBILE 6 MVEB updates for the following areas:

Milwaukee severe 1-hour ozone area;
Sheboygan County 1-hour ozone maintenance area;
Manitowoc County 1-hour ozone maintenance area; and
Door County 1-hour marginal ozone area.

The MOBILE6 MVEB adequacy determination was effective May 20, 2003 and in accordance with the March 2, 1999 D.C. Circuit Court ruling that submitted SIPs cannot be used for conformity determinations until U.S. EPA has affirmatively found them adequate.

V. WISCONSIN HAS A FULLY APPROVED SIP UNDER SECTION 110(K) OF THE ACT

Wisconsin's Ozone Control SIP is fully approved and contains all federally required emission control programs related to ozone. The major components of the required SIP include:

Governor's Proposed Designations (under CAA-90) – 6 ozone areas
Permit Program Updates – NSR, PSD, etc.
RACT Fix-up Package (pre-1990)
SIP Planning, Inventory and Emission Statement Updates
VMT Emission Growth Offset/ Demonstration Package
CAA-90 VOC RACT, CTG & ACT Rules – Core Elements
I/M Program – Expansion and Upgrades to Enhanced Program
Stage 2 Vapor Recovery Program
15% (1996) ROP and Contingent Measures Plan – VOC Controls
Phase 1 Attainment Demonstration – Commitment to Regional Effort
9% (1999) ROP and Contingent Measures Plan – VOC Controls[1]
Phase-2 Attainment Demonstration and Commitment
Post-1999 ROP Plan (2002, 2005, 2007)
2000 Regional Attainment Demonstration for 2007 – Phase 3
Excess VOC Emissions Fee for Post-2007 Nonattainment
Maintenance Plans and Contingent Measures List – Attainment Areas.

Appendix 3 lists the major state and federal control program components of Wisconsin's Approved Ozone Attainment SIP, providing information on year of submittal and approval and most recent status.

VI. IMPROVEMENT IN AIR QUALITY IS DUE TO PERMANENT AND ENFORCEABLE MEASURES

Wisconsin must be able to reasonably attribute the improvement in air quality to emission reductions, which are permanent and enforceable. To satisfy this requirement, Wisconsin submits the following data indicating a decrease in emissions between 1999, when Manitowoc County was monitored as nonattainment for the 8-hour ozone NAAQS, and 2002, when Manitowoc County was monitored as attainment. In addition, Wisconsin has documented specific permanent and enforceable programs responsible for emission reductions over this time period.

The nonattainment year inventory is from 1999. The 8-hour standard was in place in 1999 and Manitowoc County monitored nonattainment for the 8-hour standard. A majority of the 1999 inventory was developed as part of the redesignation request for

[1] This and some later SIP revisions did not include Door and Manitowoc Counties because of the overwhelming ozone transport from upwind contributing source areas including the Milwaukee Six County nonattainment areas.

Manitowoc County for 1-hour ozone NAAQS.[2] The nonroad inventory for 1999 was developed separately using US EPA's NMIM model. The attainment inventory is from 2002.

The Wisconsin counties included in this inventory analysis include Manitowoc, Sheboygan and the six counties included in the Milwaukee Metropolitan Statistical Area (MSA) i.e., Kenosha, Racine, Milwaukee, Washington, Waukesha and Ozaukee. Table 4 lists the counties with their respective FIPS codes

TABLE 4

FIPS Code	County Name
55059	Kenosha
55071	Manitowoc
55079	Milwaukee
55089	Ozaukee
55101	Racine
55117	Sheboygan
55131	Washington
55133	Waukesha

A. Nonattainment Year (1999) Inventory

The 1999 point, onroad and area source nonattainment year inventory used in this redesignation request was originally developed for the 2002 1-hour ozone attainment redesignation process for Manitowoc and Door counties. The 1999 inventory is a fully developed, detailed inventory including point, area, nonroad and onroad mobile sources. Through written correspondence, Wisconsin received approval from the U.S. EPA Region V for use of the 1999 point, onroad and area source inventory for this redesignation request. In addition, the U.S. EPA approved of this inventory when U.S. EPA approved the redesignation request of Manitowoc County to attainment status for the 1-hour ozone NAAQS. A full description of the 1999 point, onroad and area source inventory is included in Appendix 4 of this document. A summary of the pertinent 1999 emissions data is contained in Table 5 below.

The 1999 nonroad inventory was prepared by running the US EPA National Mobile Inventory (NMIM) model (Appendix 8).

[2] The EPA suggested that Wisconsin use the 1999 inventory due to resource constraints in Wisconsin. See Email from D. Aburano, EPA Region V, dated January 5, 2005. This inventory was submitted as part of the redesignation request on January 28, 2003 and was approved by the EPA on April 17, 2003 (68 FR 18883).

TABLE 5

Total Emissions for Nonattainment Year 1999 - Estimated Tons per Summer Day
Manitowoc, Sheboygan, and the Milwaukee MSA Counties, Wisconsin

	Manitowoc VOC (tpsd)	Sheboygan VOC (tpsd)	Milwaukee MSA VOC (tpsd)	Total VOC (tpsd)	Manitowoc NOx (tpsd)	Sheboygan NOx (tpsd)	Milwaukee MSA NOx (tpsd)	Total NOx (tpsd)
Point*	**1.9**	**2.9**	**19.8**	**24.6**	**3.4**	**47.6**	**120.9**	**171.9**
Area	**6.3**	**6.9**	**94.5**	**107.7**	**1.1**	**2.1**	**23.5**	**26.7**
Nonroad	**4.1**	**4.1**	**52.4**	**60.6**	**3.4**	**5.1**	**58.0**	**66.5**
Onroad	**4.4**	**4.7**	**56.4**	**65.5**	**7.9**	**8.7**	**110.0**	**126.6**
Total	**16.7**	**18.6**	**223.1**	**258.4**	**15.8**	**63.5**	**312.4**	**391.7**
*** Point includes combined non-EGU and EGU emissions**								

B. Attainment Year (2002) Inventory

WDNR prepared a comprehensive inventory for Manitowoc, Sheboygan and the Milwaukee MSA Counties, including area, mobile, and point sources for precursors of ozone (volatile organic compounds and nitrogen oxides) for base year 2002.

- Point Source Inventory - The methodology used to develop the comprehensive 2002 non-EGU point source inventory is contained in Appendix 5. Contained in Appendix 6 is the EGU emission estimation methodology created by a WDNR Air Management engineer and EGU specialist.
- Area Source Inventory - The area source inventory was derived from the Wisconsin 2002 National Emissions Inventory submittal to US EPA on June 1, 2004. These emission estimates were made based on various activity data compiled by, but not limited to, the US Census Bureau, the US Energy Information Administration, US Bureau of Economic Analysis as well as several Wisconsin State agencies.
- Nonroad Inventory - 2002 nonroad mobile emission estimates were prepared by using the US EPA National Mobile Inventory (NMIM) model.
- Onroad Inventory - Mobile source emissions were calculated using MOBILE6.2. All emission estimates were made in accordance with the Users Guide to MOBILE 6.1 and MOBILE 6.2, U.S. EPA, Office of Transportation and Air Quality, Assessment and Standards Division, August 2003, EPA 420-R-03-010 and The Technical Guidance on the Use of MOBILE6 for Emission Inventory Preparation, U.S. EPA, Office of Air and Radiation, Office of Transportation and Air Quality, January 2002.
- Biogenic emissions are not included in these summaries.

Area, nonroad and onroad emissions data are in Appendices 7-9. Table 6 below summarizes the total emissions. Tables 7 and 8 compares the total emissions for the nonattainment and the attainment inventories for the eight nonattainment counties.

TABLE 6
Total Emissions for Attainment Year 2002 - Estimated Tons per Summer Day
Manitowoc, Sheboygan, and the Milwaukee MSA Counties, Wisconsin

	Manitowoc VOC (tpsd)	Sheboygan VOC (tpsd)	Milwaukee MSA VOC (tpsd)	Total VOC (tpsd)	Manitowoc NOx (tpsd)	Sheboygan NOx (tpsd)	Milwaukee MSA NOx (tpsd)	Total NOx (tpsd)
Point*	1.7	2.7	17.8	22.2	4.1	26.1	115.9	146.1
Area	4.3	8.9	101.5	114.7	0.4	0.4	11.5	12.3
Nonroad	4.2	4.2	51.2	59.6	3.3	5.1	57.7	66.1
Onroad	3.6	4.1	45.4	53.1	7.4	8.2	101.7	117.3
Total	13.7	19.7	215.9	249.6	15.2	39.8	286.8	341.8
*** Point includes combined non-EGU and EGU emissions**								

TABLE 7
Comparison of Totals for Eight Counties 1999-2002
VOC and NOx Emissions (tons per summer day)

	VOC			NOx		
Sector	**1999**	**2002**	**Net Change (1999 – 2002)**	**1999**	**2002**	**Net Change (1999-2002)**
Point	**24.6**	**22.2**	**-2.4**	**171.9**	**146.1**	**-25.8**
Area	**107.7**	**114.7**	**7.0**	**26.7**	**12.3**	**-14.4**
Nonroad	**60.6**	**59.6**	**-1.0**	**66.5**	**66.1**	**-0.4**
Onroad	**65.5**	**53.1**	**-12.4**	**126.6**	**117.3**	**-9.3**
Total	**258.4**	**249.6**	**-8.8**	**391.7**	**341.8**	**-49.9**

Table 7 shows a decrease in both VOC and NOx. The large decrease in NOx is particularly significant for Manitowoc County because modeling performed by Lake Michigan Air Directors Consortium (LADCO) has shown that this area is NOx-limited.

C. Permanent and Enforceable Control Measures

The improvement in air quality can be attributable to a number of regulatory control measures that Wisconsin has implemented in recent years. Manitowoc County's air quality is significantly effected by the transport of ozone from upwind counties. Therefore, region-wide or controls implemented only in upwind counties are relevant to the improvement in the air quality in Manitowoc County, a rural transport county.

1. Rate of Progress Plan

Areas designated as nonattainment for the 1-hour ozone standard are required to reduce VOC emissions 3% per year from "adjusted" 1990 levels until the areas attain the ozone

standard and get reclassified. For severe ozone areas, Rate of Progress (ROP) plans are required to meet milestone years in 1996 (15%), 1999 (24%), 2002 (33%), 2005 (42%) and 2007 (48%). For each milestone plan, an additional 3% reduction must be identified as a contingency measure.

Wisconsin inventoried actual emissions of VOCs from all stationary, mobile and area sources and first submitted it as part of its 1992 SIP requirements. In late 1993, Wisconsin submitted a 1996 ROP SIP revision to the EPA describing actions the state planned to implement to achieve the 3% annual VOC reductions beginning in 1996, known as the "15% VOC reduction plan." On March 22, 1996, Wisconsin became the first state to receive EPA approval of its 15% VOC reduction plan (61 FR 11735).

The 1990 level of emissions in the state was 341 tons per day, so the state was required to reduce VOC emissions by 51.2 tons per day, beginning in 1996. The 1996 plan allocated the reduction as follows: a) 51% (26.3 tons per day) from mobile sources; b) 36% (18.4 tons per day) from area sources; and c) 13% (6.5 tons per day) from industrial sources. Federal programs to reduce VOC emissions included reformulated gasoline, clean fuel fleets and revised motor vehicle emission standards. Wisconsin program elements included rules defining VOC RACT for major sources, enhancement to the vehicle inspection and maintenance programs, stage 2 gasoline fuel vapor recovery, solvent limits for various coatings applications and some voluntary industrial solvent regulation enhancements.

In 1997, after an analysis of VOC emissions in the nine county nonattainment area (Door, Kenosha, Manitowoc, Milwaukee, Ozaukee, Racine, Sheboygan, Washington, and Waukesha), Wisconsin sent a letter to US EPA indicating that the state had achieved the required milestone of reducing VOCs by 15% from the 1990 base level of emissions.

In 1997, Wisconsin submitted a 1999 ROP SIP revision to US EPA describing actions the state planned to begin implementing in 1999 to achieve the required additional 3% annual reduction in VOCs in the state's six severe nonattainment counties. In the 1999 plan, Wisconsin projected that VOC emission control measures in the 1996 plan, along with additional emission reductions from adopted federal programs, would be sufficient to reach the 1999 rate-of-progress. In 2000, Wisconsin completed an analysis of emissions that demonstrated that the state met the emissions milestone for 1999 of reducing VOC emissions by 9% from 1996 to 1999.

In late 2000, Wisconsin included the 2002, 2005 and 2007 ROP SIP revisions with the 1-hour attainment demonstration plan. On October 10, 2001, the EPA approved the ROP SIP revisions (66 FR 51572).

The 1999 ROP SIP revision included a number of controls in the severe nonattainment counties, which are located upwind of Manitowoc County. See Table 8. Those control strategies that were also implemented in Manitowoc County are indicated in the table.

TABLE 8
Control Measures from 1999 ROP SIP Revision

Control Measure	Wis. Adm. Code	Implemented in Manitowoc County	Implemented in Upwind Counties
Highway Motor Vehicle			
Federal Tier 1 vehicle tailpipe standards	n/a		**X**
Reformulated gasoline	n/a	**X**	**X**
Motor vehicle inspection and maintenance	n/a		**X**
Federal gasoline detergent additives	n/a	**X**	**X**
Small Industrial and Point			
Wood furniture coating	NR 422.125		**X**
Miscellaneous wood products and parts	NR 422.132, 422.135		**X**
Yeast manufacturing	NR 424.05		**X**
Screen Printing	NR 422.145		**X**
Gray iron & steel foundries	NR 419.08		**X**
Industrial adhesives	NR 422.127		**X**
Degreasing	NR 423.03		**X**
Asphalt BACT	NR422.16		**X**
LAER at gas storage facilities	NR 445		**X**
LAER Medical waste incinerators	NR 445		**X**
TSDF MACT			**X**
Partners Program Participation			**X**
Area and Nonroad Engines			
Federal architectural and industrial maintenance coating	n/a	**X**	**X**
Autobody refinishing	NR 422.095	**X**	**X**
Stage 2 vapor recovery	NR 420.045		**X**
Federal on-board vapor recovery canisters	n/a	**X**	**X**
Traffic markings	NR 422.17		**X**
Underground gas tank vent valves	NR 420.035		**X**
Federal commercial and consumer solvents	n/a	**X**	**X**
Federal nonroad engine standards	n/a	**X**	**X**

The measures that required promulgation of rules have been fully adopted by the Natural Resources Board and were implemented by 2001.

2. Volatile Organic Compound (VOC) Reasonably Available Control Technology (RACT)

Section 182(b)(2) of the 1990 Clean Air Act requires States to implement RACT for major stationary sources of VOCs. Wisconsin has adopted and implemented rules requiring existing major stationary sources of VOCs to meet, at a minimum, RACT. These requirements (Wis. Adm. Code NR 419-424) apply to sources in categories covered by control technology guidelines and other source categories of VOCs.

3. Nitrogen Oxides (NO_x) Reasonably Available Control Technology (RACT) Waiver

In 1995, Wisconsin, along with other Lake Michigan states, received a waiver from section 182(f) of the Clean Air Act, which required states to implement reasonable available control technology for major stationary sources of NOx. Wisconsin established specific NOx controls as part of the necessary progress plans setting formal maximum NOx budgets within Wisconsin's SIP. These specific controls were implemented in November 2001 in Wis. Admin. Code NR 428 and are described more fully in Section VI. B. 4.

4. Measures in addition to Clean Air Act Requirements

In anticipation of the need for additional reductions beyond Clean Air Act requirements, Wisconsin worked with the community to identify and implement additional control measures. Thus, in addition to emission reductions that will occur as a result of various federal measures, further reductions in ozone precursor emissions have occurred, or are anticipated to occur, as a result of local and federal control programs. These additional control measures include:

- **NO_x SIP Call**: To address the ozone transport problem, US EPA finalized rulemaking in September 1998 requiring 22 states, not including Wisconsin, to reduce NOx emissions within each state to a level consistent with a NOx emissions budget identified in the final rule (63 FR 57356). The 22 states were required to submit a revision to their State Implementation Plan addressing the regional transport of ozone, consisting of rules to reduce NOx emissions from electric utility boilers, cement kilns, large industrial boilers and stationary internal combustion engines. Implementation of the NO_x SIP call in states upwind from Wisconsin began in May 2004. This rule results in a significant reduction of NOx emissions that contribute to ozone concentrations in Manitowoc County.
- **Tier 2 Emission Standards for Vehicles and Gasoline Sulfur Standards**: In May 1999, US EPA proposed a federal rule to significantly reduce emissions from cars and light trucks, including sport utility vehicles (SUVs). Under this proposal, automakers would be required to sell cleaner cars, and refineries would be required to make cleaner, lower sulfur gasoline. This rule would apply nationwide. The federal rules would phase in between 2004 and 2009. US EPA has estimated that NOx emission reductions would be approximately 77% for passenger cars, 86% for smaller SUVs, light trucks, and minivans, and 65-95% reductions for larger SUVs, vans, and heavier trucks. VOC emission reductions would be approximately 12% for passenger cars, 18% for smaller SUVs, light trucks, and minivans, and 15% for larger SUVs, vans, and heavier trucks.
- **Ultra-low Sulfur Diesel Requirements for Highway Vehicles**: Beginning June 1, 2006, refiners will be required to start producing diesel fuel for use in highway vehicles with a sulfur content of no more than 15 ppm. At the terminal level, highway diesel fuel sold as low sulfur fuel will be required to

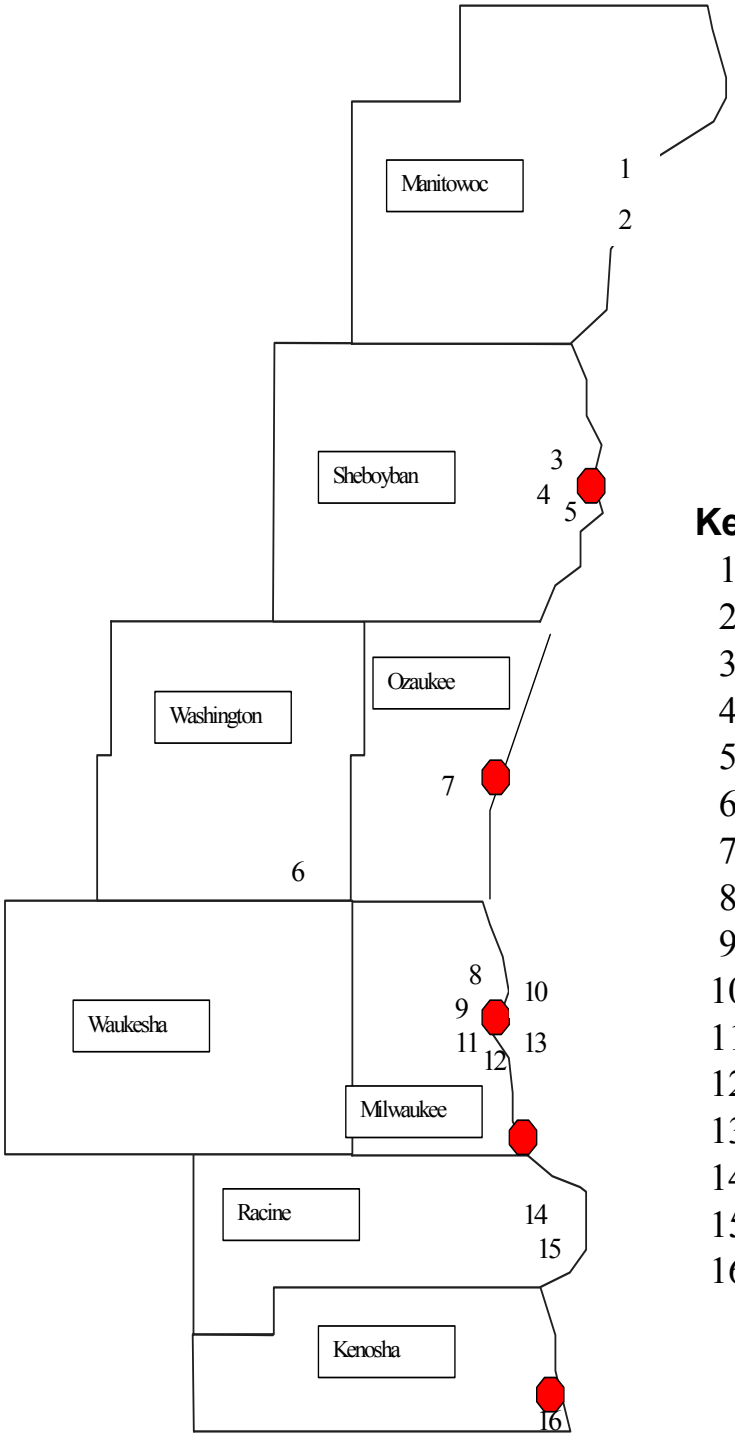
meet the 15 ppm sulfur standard as of July 15, 2006. For retail stations and fleets, highway diesel fuel sold as low sulfur fuel must meet the 15 ppm sulfur standard by September 1, 2006.

- **Clean Air Nonroad Diesel Rule**: In May 2004, US EPA proposed the Clean Air Nonroad Diesel Rule which requires stringent pollution controls on diesel engines used in industries such as construction, agriculture and mining that will result in a reduction in NOx emissions. In addition, sulfur levels in nonroad diesel fuels will be reduced by 99 percent from current levels (from approximately 3,000 ppm now to 15 ppm in 2010). The rule also requires engine manufacturers to use advanced clean technologies, similar to catalytic technologies used in passenger cars. New engine standards take effect, based on engine horsepower, starting 2008. This rule would apply nationwide.
- **Maximum Achievable Control Technology (MACT) Standards**: Using a technology based approach, the US EPA develops standards for controlling emissions of the emissions of air toxics from each major type of facility within an industry group. These standards are based on emission levels that are already being achieved by lower emitting sources in an industry. For a list of MACT standards implemented in Manitowoc County and upwind counties see Appendix 10.
- **Stationary Source NOx Control Program (Wis. Adm. Code NR 428)**: NR 428 addresses stationary source NOx emissions and is structured to meet ROP emission reduction requirements through 2007, the 8-hour ozone standard attainment deadline for the Lake Michigan region. The program encompasses the seven southeast counties of Kenosha, Milwaukee, Ozaukee, Racine, Sheboygan, Washington and Waukesha, which are upwind of Manitowoc. It controls NOx for larger existing sources and establishes emissions standards for new sources. The existing source control program reduces emissions at electric utility facilities and on larger industrial combustion sources from projected baseline levels in 2002 through 2007. The performance standards for new sources address emission rates from new uncontrolled facilities in the eight counties and for those undergoing major modification.

  The existing source performance standards effect 48 individual units at 21 facilities. **Figure 2** notes the facilities and their relative location. This program is targeted to achieve 30 tons NOx per day at an average cost of approximately $1,000 per day by the 2003 ozone season. The program is expected to achieve a 55 ton per day reduction by 2007 at an average cost of approximately $1,600 per ton.

  The program consists of two basic elements: 1) ozone season emission limits for electric utility systems comprised of boilers equal to or greater than 500 mmbtu/hr; and 2) Unit-specific requirements of either emission rate limits or combustion optimization for other large emission sources.

FIGURE 2 Facilities Identified to be Potentially Affected by NR 428



Utility Facility with Boilers > 500 mmbtu/hr

Edgewater
Port Washington
Valley
Oak Creek
Pleasant Prairie

Key	Facility
1	Manitowoc Public Utility
2	Rockwell Lime
3	Kohler
4	Plastics Engineering
5	ANR Pipeline
6	WEPCO - Germantown
7	Charter Steel
8	DOA / UW Milwaukee
9	Mid-American Drum
10	Miller Brewing Company
11	Milwaukee Co Power Plant
12	Pfister and Vogel Leather
13	Wisconsin Paperboard
14	Ball & Foster Glass
15	Case Corporation
16	WEPCO - Paris

- **Side Benefits of Control of Hazardous Pollutants (Wis. Adm. Code NR 445)**: NR 445 applies to all stationary air contaminant sources, which may emit hazardous contaminants. Some sources may be exempt from these requirements based on a risk-based threshold. These controls are expected to result in the reduction of NOx emissions from the nonroad stationary reciprocating diesel engines. The reduction is the result of NR 445 requiring affected engines to fire low sulfur on-road fuel beginning in July 2006. NR 445 also includes an incentive to replace old engines with engines that meet Tier 2 or later nonroad standards. This will result in reductions of NOx in the upwind nonattainment counties as well as Manitowoc County.

- **Local Controls of Traffic Congestion**: The City of Manitowoc has implemented local controls to decrease the traffic congestion in the city. These local controls will reduce idling times of motor vehicles and thus reduce NOx emissions.

5. Controls to Remain in Effect

Wisconsin intends to maintain the control measures listed above after redesignation. Wisconsin hereby commits that any changes to its rules or emission limits applicable to VOC and/or NOx sources, as required for maintenance of the ozone standard in Manitowoc County, will be submitted to US EPA for approval as a SIP revision. Wisconsin, through its Bureau of Air Management, has the necessary resources to actively enforce any violations of its rules or permit provisions. After redesignation, it intends to continue enforcing all rules that relate to the emission of ozone precursors in Manitowoc and upwind counties.

6. New Source Review Provisions

Wisconsin has a fully implemented New Source Review procedure. This is addressed in Wis. Adm. Code NR 405. The rule includes provisions for the Prevention of Significant Deterioration (PSD) in Wis. Adm. Code NR 405.01. US EPA has delegated the implementation of this program, applicable to attainment areas, to Wisconsin. Any facility that is not listed in the 2002 emission inventory, or for the closing of which credit was taken in demonstrating attainment, will not be allowed to construct, reopen, modify, or reconstruct without meeting any applicable permit rule requirement. The review process will be identical to that used for new sources.

VII. MANITOWOC COUNTY'S MAINTENANCE PLAN UNDER SECTION 175A OF THE ACT

Section 175A of the Act sets forth the elements of a maintenance plan for areas seeking redesignation from nonattainment to attainment. The plan must demonstrate continued attainment of the applicable NAAQS for at least 10 years after the EPA approves a

redesignation to attainment. Eight years after the redesignation, the State must submit a revised maintenance plan, which demonstrates attainment for the 10 years following the initial 10-year period. To address potential future NAAQS violations, the maintenance plan must contain contingency measures, with a schedule for implementation adequate to assure prompt correction of any air quality problems.

Section 175A(d) requires that the contingency provisions include a requirement that the State will implement all control measures that were in the SIP prior to redesignation as an attainment area.

An ozone maintenance plan should address the following five elements: attainment inventory, demonstration of maintenance, monitoring network, verification of continued attainment and a contingency plan.

A. Attainment Inventory

Wisconsin used the year 2002 to demonstrate attainment as discussed above in section VI.

B. Demonstration of Maintenance

In order to demonstrate continued attainment for ten years after EPA approves the redesignation, the State is required to develop projected inventories. After discussion with US EPA Region V staff and receiving their written confirmation, WDNR used 2007 as the interim projection year. The year 2015 was used as the maintenance year based on the Redesignation Guidance requiring the maintenance year be at least 10 years after the redesignation request is approved by the EPA.

1. Maintenance Inventory Methodology

This document contains projected emissions for 2007 and 2015 inventories for Manitowoc County, as well as Sheboygan County and the Milwaukee 6-county MSA nonattainment region. The latter counties are included in this projection because these counties are upwind of Manitowoc and significantly contribute to Manitowoc County's air quality. WDNR performed emission projections using the following approaches.

- Point Source Inventory Projections- Projections were performed by applying growth factors to the 2002 attainment year inventory. Point source growth factors, for both process and non-electrical generation unit (EGU) combustion emissions, were selected carefully, based on a prioritization schema. Foremost priority was given to county-specific growth factors developed by Pechan[3] contained in the document entitled Development of Growth and Control Factors for the Lake Michigan Air Directors Consortium (LADCO)- Final Report (December 14, 2004). Next, if a county-specific growth factor was unavailable, a Wisconsin state-specific growth

[3] Pechan is an independent contractor, which, through contracts with LADCO, has developed state specific emission inventory data, including growth factors, for the entire LADCO region.

factor developed by Pechan was applied. If neither was available, an EGAS 5.0-generated growth factor was employed. EGU emissions projections were grown from information provided by Air Management engineer and EGU specialist. Again, his detailed methodology is contained in Appendix 6.

- Area Source Inventory Projections - Projections were performed by applying growth factors to the 2002 attainment year inventory. For area source emission projections, the same prioritization schema was applied as with point sources.
- Nonroad Inventory Projections - Growth functions contained in the NMIM software were used to estimate future year nonroad mobile emissions.
- Onroad Inventory Projections - Emission projections were created using the US EPA MOBILE 6.2. All projections were made in accordance with the Users Guide to MOBILE 6.1 and MOBILE 6.2, U.S. EPA, Office of Transportation and Air Quality, Assessment and Standards Division, August 2003, EPA 420-R-03-010 and The Technical Guidance on the Use of MOBILE6 for Emission Inventory Preparation, U.S. EPA, Office of Air and Radiation, Office of Transportation and Air Quality, January 2002.

2. Maintenance Inventory for 2007 and 2015

The maintenance emission inventory estimates are presented in the tables below and demonstrate that VOC and NOx emissions will decrease in future years. The results of this analysis show that Manitowoc County is expected to maintain the air quality standard for at least ten years into the future.

TABLE 9
Total VOC and NOx Emissions for Interim Year 2007 –
Projected Tons per Summer Day
Manitowoc, Sheboygan, and the Milwaukee MSA Counties, Wisconsin

	Manitowoc VOC (tpsd)	Sheboygan VOC (tpsd)	Milwaukee MSA VOC (tpsd)	Total VOC (tpsd)	Manitowoc NOx (tpsd)	Sheboygan NOx (tpsd)	Milwaukee MSA NOx (tpsd)	Total NOx (tpsd)
Point*	**2.1**	**3.0**	**19.4**	**24.5**	**4.1**	**29.7**	**59.6**	**93.4**
Area	**4.7**	**10.6**	**116.3**	**131.6**	**0.4**	**0.5**	**12.8**	**13.7**
Nonroad	**3.8**	**3.6**	**44.4**	**51.8**	**2.8**	**4.4**	**42.4**	**49.6**
Onroad	**3.1**	**3.2**	**32.2**	**38.5**	**6.3**	**6.4**	**71.9**	**84.6**
Total	**13.7**	**20.4**	**212.3**	**246.4**	**13.6**	**41.0**	**186.7**	**241.3**
*** Point includes combined non-EGU and EGU emissions**								

TABLE 10
Total VOC and NOx Emissions for Maintenance Year 2015 –
Projected Tons per Summer Day
Manitowoc, Sheboygan, and the Milwaukee MSA Counties, Wisconsin

	Manitowoc VOC (tpsd)	Sheboygan VOC (tpsd)	Milwaukee MSA VOC (tpsd)	Total VOC (tpsd)	Manitowoc NOx (tpsd)	Sheboygan NOx (tpsd)	Milwaukee MSA NOx (tpsd)	Total NOx (tpsd)
Point*	**2.8**	**4.0**	**24.4**	**31.2**	**4.5**	**27.3**	**55.7**	**87.5**
Area	**5.5**	**13.4**	**142.0**	**160.9**	**0.5**	**0.5**	**13.7**	**14.7**
Nonroad	**3.0**	**2.4**	**31.4**	**36.8**	**2.5**	**3.7**	**37.6**	**43.8**
Onroad	**1.8**	**1.7**	**16.8**	**20.3**	**3.5**	**3.3**	**31.3**	**38.1**
Total	**13.1**	**21.5**	**214.6**	**249.2**	**11.0**	**34.8**	**138.3**	**184.1**
*** Point includes combined non-EGU and EGU emissions**								

Emission trends are an important gauge for continued compliance of the ozone standard. Therefore, WDNR performed an initial comparison of the base year 2002 and maintenance year inventories, which is summarized below in Tables 11 and 12. A comparison of net emission changes between estimated 2002 inventory and projected 2015 inventory is included in both tables.

TABLE 11
Comparison of 8-County Total Estimated and Projected VOC Emissions
(Tons per Summer Day)

	Estimated 2002 VOC (tpsd)	Projected 2007 VOC (tpsd)	Projected 2015 VOC (tpsd)	Net Change VOC 2015 - 2002 (tpsd)
Point	**22.2**	**24.5**	**31.2**	**9**
Area	**114.7**	**131.6**	**160.9**	**46.2**
Nonroad	**59.6**	**51.8**	**36.8**	**-22.8**
Onroad	**53.1**	**38.5**	**20.3**	**-32.8**
TOTAL	**249.6**	**246.4**	**249.2**	**-0.4**

VOC emissions in the 8-county area including Manitowoc are projected to decrease by 0.5 tons/summer day. These emissions do not decrease significantly because projected emissions of point and area source VOC emissions effectively outstrip reductions in onroad and nonroad VOC in the 8-county area.

TABLE 12
Comparison of 8-County Total Estimated and Projected NOx Emissions
(Tons per Summer Day)

	Estimated 2002 NOx (tpsd)	Projected 2007 NOx (tpsd)	Projected 2015 NOx (tpsd)	Net Change NOx 2015 - 2002 (tpsd)
Point	**146.1**	**93.4**	**87.5**	**-58.6**
Area	**12.3**	**13.7**	**14.7**	**2.4**
Nonroad	**66.1**	**49.6**	**43.8**	**-22.3**
Onroad	**117.3**	**84.6**	**38.1**	**-79.2**
TOTAL	**341.8**	**241.3**	**184.1**	**-157.7**

As Table 12 above indicates, substantial reductions in NOx emissions occur in all sectors, but area sources, between the years 2002 and 2015. Projected total emissions will be reduced by approximately 46% (or 156.7 tpsd) during the 13 year period. This is significant, as ozone formation in Manitowoc County is NOx limited. The decreasing trend in NOx emissions has lead, and will likely lead to, further reductions in ozone concentrations in Manitowoc County.

3. Demonstration of Maintenance

Ambient air quality data from the monitoring site (55-071-0007) indicate that air quality met the NAAQS for ozone during the period 2002 through 2004. The Redesignation Guidance states, "A state may generally demonstrate maintenance of the NAAQS by either showing that future emissions of a pollutant or its precursors will not exceed the level of the attainment inventory, or by modeling to show that the future mix of sources and emission rates will not cause a violation of the NAAQS." The emission projections show that the total emissions are not expected to exceed the level of the 2002 attainment year inventory during the 10-year period. NOx emissions will be substantially reduced in the region, while VOC emissions will slightly decrease.

In Wisconsin, point sources in all Wisconsin counties emitting greater than 5 tons carbon monoxide, sulfur dioxide, particulate matter or 6 tons of VOC per year are required to submit air emissions information annually in accordance with the Air Contaminant Emission Inventory Reporting Requirements Rule, Chapter NR 438. WDNR prepares a new periodic inventory for all ozone precursor emission sectors every three (3) years. These ozone precursor inventories will be prepared for 2005, 2008, 2011, and 2014 as necessary, to comply with the inventory reporting requirements established in the CAAA. Emissions information will be compared to the 2002 base year and the 2015 projected maintenance year inventories to assess emission trends, as necessary, to assure continued compliance with the ozone standard.

4. Transportation Conformity

As described in CAA section 176(c)(2)(A), attainment demonstrations necessarily include estimates of motor vehicle emissions. These estimates act as a ceiling or a

"budget" for emissions from motor vehicles, and are used to determine whether transportation plans and projects conform to the attainment SIP. In order for transportation plans and projects to conform, estimated emissions from transportation plans and projects must not exceed the emission budgets contained in the attainment demonstration. The criteria that determines whether a SIP's motor vehicle emission budgets are adequate for transportation conformity purposes are outlined in 40 CFR 93.118(e)(4).

MVEB must reflect appropriate and up to date projections of motor vehicle emissions for the attainment year. For example, assumptions about VMT, socio-economic variables and other planning assumptions must be appropriate and up-to-date. Also, the inputs to the MOBILE6 model and vehicle fleet characteristics must be appropriate and up-to-date as required by EPA's guidance on SIP inventories and the MOBILE users' guide. The non-attainment and maintenance area MVEB and VMT inventory, that are used to establish the budgets, must include the effects of all motor vehicle controls that will be in place by the attainment year. These controls include federal measures, (e.g., National Low Emission Vehicle – NLEV program) and the mobile source control measures assumed in the 1-hour Ozone Attainment Demonstration SIP, submitted in 2000.

The budget for Manitowoc County was based on the WisDOT HPMS forecast that Vehicle Miles Traveled (VMT) will increase from 2,626,759 miles per summer weekday in 2002 to 3,376,848 miles per summer weekday in 2015. The 2007 Vehicle Miles Traveled (VMT) projections were obtained from the WisDOT and were identical to the forecasts used for the Ozone Attainment Demonstration SIP.

Conformity budgets must address both VOC and NOx emissions for all ozone nonattainment and maintenance areas designated under the CAA. These budgets need to reflect reasonably consistent planning assumptions between the Air Quality and Transportation planning processes and reflect the impact of emission forecasts and emission control programs incorporated into the attainment demonstration. Manitowoc County's MVEBs for 2007 and 2015 are shown below in Table 13:

TABLE 13
Mobile Sector Budget for the New Maintenance Plan for the Redesignation of Manitowoc County

	2007[4]		2015[5]	
Manitowoc County	**VOC (TPSD)**	**NOx (TPSD)**	**VOC (TPSD)**	**NOx (TPSD)**
	3.08	6.33	1.76	3.46

[4] Interim budgets for 2007 include a 15% and 8.4% "safety margin" for VOC and NOx, respectively.
[5] Conformity budgets for 2015 include a 20% and 30% "safety margin" for VOC and NOx, respectively.

5. Provisions for Future Updates

As required by Section 175A(b) of the CAAA, Wisconsin commits to submit to the Administrator, eight (8) years after redesignation, an additional revision of this SIP. The revision will contain Wisconsin's plan for maintaining the national primary ozone air quality standard for ten (10) years beyond the first 10- year period after redesignation.

C. Monitoring Network

Wisconsin currently operates one ozone monitor in Manitowoc County. For a detailed discussion of this monitor see Section III above. Wisconsin has committed to continue to operate and maintain an approved ozone monitor network in Manitowoc County through the maintenance period and beyond.

D. Verification of Continued Attainment

Continued attainment of the 8-hour ozone NAAQS in Manitowoc County depends, in part, on the State's effort toward tracking indicators of continued attainment during the maintenance period. The tracking plan for Manitowoc County primarily consists of continued ambient ozone monitoring in accordance with the requirements of 40 CFR part 58. Wisconsin maintains a comprehensive ambient air quality monitoring network and air quality reporting program, including ozone monitoring sites throughout the state and a fully enhanced network in the area around Lake Michigan. These are structured in state statute to continue through and past the maintenance period. The State will also evaluate future VOC and NOx emissions inventories for increases over 2002 levels.

E. Contingency Plan

Despite the best efforts to demonstrate continued compliance with the NAAQS, the ambient ozone concentrations may exceed or violate the NAAQS. Therefore, as required by section 175A of the Act, Wisconsin has provided contingency measures to promptly correct a future ozone air quality problem.

The following circumstances would trigger a corrective action: a violation of the 8-hour ozone NAAQS (level II trigger) and an 8-hour ozone design value exceeding 0.083 ppm (level I trigger). Both would be determined at the end of the ozone monitoring season after the monitoring data have been quality assured.

Wisconsin hereby commits to adopt and implement expeditiously necessary corrective actions in the following circumstances:

- A Level I response would include an evaluation by Wisconsin to determine if any additional control measures are necessary to assure future attainment of NAAQS for ozone. If deemed necessary to ensure continued attainment level air quality in the Manitowoc County, Wisconsin will adopt appropriate control measures within 18 months of that determination and will seek appropriate upwind controls.

- A Level II response will consist of a study to determine appropriate measures to address the cause of the violation. Wisconsin commits to complete an analysis within 6 months of determining a violation occurred. Wisconsin will adopt selected measures within 18 months and implement them as expeditiously as practicable, taking into consideration the ease of implementation and the technical and economic feasibility of selected measures as well as their appropriateness to address the monitored violations. Based on the analysis, Wisconsin will also seek appropriate additional regional upwind emission reductions of either VOC or NOx on an expeditious schedule as needed to ensure attainment in Manitowoc County.

Adoption of any additional control measures is subject to the necessary administrative and legal process. This process will include publication of notices, an opportunity for public hearing, and other measures required by Wisconsin law for rule making.

In any event, the implementation plan would include an analysis, by a method mutually agreed upon by Wisconsin and the US EPA, to demonstrate that the proposed measures are adequate to return the area to attainment.

Contingency measures to be considered will be selected from those described below or from any other measure deemed appropriate and effective at the time the selection is made. The selection between measures will be based upon cost-effectiveness, emission reduction potential, economic and social considerations or other factors that Wisconsin deems appropriate. Wisconsin will solicit input from all interested and affected persons in the area prior to selecting appropriate contingency measures. All of the listed contingency measures are potentially effective or proven methods of obtaining significant reductions of ozone precursor emissions. Because it is not possible at this time to determine what control measure will be appropriate at an unspecified time in the future, the list of contingency measures is comprehensive. We anticipate that only a few of these measures would be required.

1. Contingency Measures for Point Sources

a) Reinstate offsets and/or LAER requirements of new source review for VOC sources.
b) Apply RACT to smaller existing VOC sources.
c) Tighten existing VOC RACT limits for existing sources covered by US EPA CTGs.
d) Expand geographic coverage of current point source measures.
e) NOx controls.
f) Other measures to be identified.

2. Contingency Measures for Mobile Sources

a) High-enhanced inspection and maintenance (OBDII).
b) California motor vehicle emissions standards.
c) Transportation control measures/ transportation demand management.

1) Trip reduction programs, including, but not limited to, employer-based transportation management plans, area wide rideshare programs, work schedule changes, and telecommuting.
2) Transit improvements.
3) Traffic flow improvements.
4) Other transportation measures not yet in widespread use that affect state and local governments as deemed appropriate.

d) Other measures to be identified.

3. Contingency Measures for Nonroad Sources

a) California nonroad engine and/or nonroad vehicle standards.
b) Other measures to be identified.

4. Contingency Measures for Area Sources

a) California AIM coating standards.
b) California commercial and consumer products solvent limits.
c) Expanded geography for existing area source VOC controls.
d) Other measures to be identified.

No contingency measure shall be implemented without providing the opportunity for full public participation during which the relative costs and benefits of individual measures, at the time they are under consideration, can be fully evaluated.

F. Commitment to Revise Plan

Wisconsin hereby commits to review its Maintenance Plan eight years after redesignation, as required by Section 175(A) of the CAAA. This revised SIP will provide for maintenance for an additional 10 years.

VIII. PUBLIC PARTICIPATION

In accordance with Section 100 (a) (2) of the CAAA, public participation in the SIP process is provided for as follows:

Notice of availability of the ozone redesignation documents and the time and date of the public hearing was published in the Manitowoc Herald Times on February __, 2005.

The public hearing to receive comments on the redesignation request is currently scheduled for 1:00 P.M. on March 29, 2005 at Manitowoc Public Library, Balkansky Community Room A, 707 Quay Street, Manitowoc, Wisconsin. A summary of the comments received and Wisconsin's responses thereto, will be included as an appendix prior to submittal to US EPA.

XI. CONCLUSIONS

The Manitowoc County nonattainment area has attained the NAAQS standard for 8-hour ozone and complied with the applicable provisions of the 1990 Amendments to the Clean Air Act regarding redesignations of Subpart I Basic ozone nonattainment areas. Documentation to that effect is contained herein. WDNR has prepared a State Implementation and Maintenance Plan that meets the requirement of Section 110 (a) (1) of the 1990 Clean Air Act.

WDNR has performed an analysis and believes the air quality improvements are due to permanent and enforceable measures. In addition, WDNR believes that significant regional NOx reductions will ensure continued compliance (maintenance) with the standard and that all CAAA requirements necessary for redesignation have been met.

Based on this presentation, WDNR believes that this area meets the requirements for redesignation under the CAA and U.S. EPA guidance. Furthermore, because this area is subject to significant transport of pollutants, significant regional NOx reductions will ensure continued compliance (maintenance) with the standards with an increasing margin of safety.

The State of Wisconsin hereby requests that the Manitowoc County nonattainment area be redesignated to attainment simultaneously with U.S. EPA approval of Wisconsin's State Implementation and Maintenance Plan provisions contained herein.